

Patent claims:

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1. Apparatus having a writing instrument and a writing pad for recording a data record which contains an item of information set down on the writing pad with the aid of the writing instrument, in particular written text and/or a drawing, corresponding data and positions, associated with the information, on the writing pad, and a further identifier assigned to the writing pad, the recording being activated by the production of the information.
 2. Apparatus according to Claim 1, characterized in that the apparatus contains first means for continuously determining the position of the writing instrument on the writing pad relative to a starting position for setting down the information, and second means for continuous absolute determination of the position of the writing instrument on the writing pad.
 3. Apparatus according to Claim 2, characterized in that the determination of the relative positions is performed in shorter time intervals than the determination of the absolute positions, and in that the first means determine the relative positions from the three-dimensional movement profile of the writing instrument, and the second means are designed as marking on the writing pad and a read-out unit, associated therewith, in the writing instrument, the relative positions thereby being adjusted given the presence of absolute positions.
 4. Apparatus according to ^{claim 1} ~~one of Claims 1 to 3~~, characterized in that the first means have three acceleration sensors, which are assigned three mutually orthogonal spatial directions, and have a two-dimensionally operating inclination sensor and at least one gyroscope, and in that the second means are designed as a system which resembles a bar code, is applied uniformly to the writing pad and has location data in two mutually orthogonal directions, and as an

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associated optoelectronic sensor in the writing instrument.

5. Apparatus according to Claim 4, characterized in that the optoelectronic sensor is an infrared sensor.

6. Apparatus according to ^{claim 1} ~~one of the preceding claims~~, characterized in that the writing instrument comprises a processor device and/or a device for storing the data record.

7. Apparatus according to ^{claim 1} ~~one of the preceding claims~~, characterized in that it comprises a transmitter and/or a receiver.

8. Apparatus according to ^{claim 1} ~~one of the preceding claims~~, characterized in that the apparatus detects the inclination of the writing instrument during the writing operation, and/or the speed at which the writing instrument is moved over the writing pad, and/or the acceleration of the writing instrument over the writing pad and/or the pressure of the writing instrument on the writing pad during the writing operation.

9. Apparatus according to ^{claim 1} ~~one of the preceding claims~~, characterized in that the receiver comprises a computer or can be connected to a computer, and/or the computer comprises at least one database, and data stored in the database are compared with the recorded data.

10. Apparatus according to ^{claim 1} ~~one of the preceding claims~~, characterized in that the computer and/or the processor device of the writing instrument has software or a hard wired logic in which an intelligent reading method is implemented.

11. Apparatus according to ^{claim 1} ~~one of the preceding claims~~, characterized in that the receiver is portable, for example like an electronic notebook or a watch.

12. Apparatus according to ^{claim 1} ~~one of the preceding claims~~, characterized in that a user of the writing instrument, or the writing instrument itself is

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allocated at least one identification number and/or at least one password.

13. Apparatus according to ^{claim 1} ~~one of the preceding claims~~, characterized in that there is attached to the writing instrument a signalling device which, in particular, indicates when the reception of transmitted data does not progress correctly.

14. Apparatus according to ^{claim 1} ~~one of the preceding claims~~, characterized in that the transmitter comprises a buffer.

15. Apparatus according to ^{claim 1} ~~one of the preceding claims~~, characterized in that the writing pad comprises a code for identifying the contents of the writing pad.

16. Apparatus according to Claim 15, characterized in that the writing instrument has a reader for picking up the code.

17. Apparatus having a writing instrument which produces a two-dimensional image and which records the two-dimensional image in the form of signals, and having a writing pad with at least one field to be written in.

18. Apparatus according to Claim 17, characterized in that the writing pad comprises a magnetic layer.

19. Apparatus according to Claim 17 ~~or 18~~, characterized in that the writing pad has a linear or non-linear magnetic array.

20. Apparatus according to ^{claim 1} ~~one of the preceding claims~~, characterized in that the writing instrument produces the two-dimensional image with the aid of ballpoint paste, a magnetic substance or an optically detectable substance.

21. Method for recording a data record which includes at least one item of information set down with a writing instrument on a writing pad, corresponding data, and positions associated with the information, on the writing pad and a further identifier assigned to the writing pad, the recording being activated by the production of the information.

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22. Method according to Claim 21, characterized in that the position of the writing instrument is determined from the movement of the writing instrument during the application of the information to the writing pad, and is corrected at prescribable time intervals via a determination of absolute position with reference to the writing pad.

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23. Method according to Claim 21 ~~or 22~~, characterized in that the determination of the relative positions is performed in shorter time intervals than the determination of the absolute positions, and in that the relative positions are determined from the three-dimensional movement profile of the writing instrument, and the absolute positions are determined via the marking on the writing pad and an associated read-out unit in the writing instrument.

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24. Method according to ^{Claim 21} ~~one of Claims 21 to 23~~, characterized in that the acceleration of the writing instrument is determined with three acceleration sensors, which are assigned three mutually orthogonal spatial directions, and an inclination of the writing instrument is determined with the aid of a two-dimensionally operating inclination sensor, and a rotation of the writing instrument about its longitudinal axis is determined with the aid of a gyroscope, and in that the relative position of the writing instrument is determined from a two-fold integration with respect to time of the acceleration, taking account of the inclination and the rotation, and in that the absolute position is determined by using a system which resembles a bar code, is applied uniformly to the writing pad and has location data in two mutually orthogonal directions, and has an associated optoelectronic sensor in the writing instrument.

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